

### ABSTRACT OF THE DISCLOSURE

A method, apparatus, and article of manufacture provide the ability to conduct magnetic resonance tomographic microscopy. A two-dimensional non-crystalline sample is placed under the influence of a static polarizing first magnetic field. A radio-frequency field is then introduced perpendicular to the first magnetic field. To conduct the tomography, two or more magnetically resonant spins of the sample are simultaneously obtained by sequentially angularly rotating, around a prescribed axis, the sample with respect to a ferromagnetic sphere having a second magnetic field. The obtained spins are then used to reconstruct an image of the sample using computerized tomography.

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Adriane M Baird  
(printed name)

Adriane M Baird  
(signature)